REMARKS/ARGUMENTS

Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks. Claims 1-14 remain pending.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicant basically:

1. Amend claims 1,3, 6 and 8.
2. Respectfully traverse all prior art rejections.
3. Advise the Examiner of the simultaneous filing of a Petition to Extend.

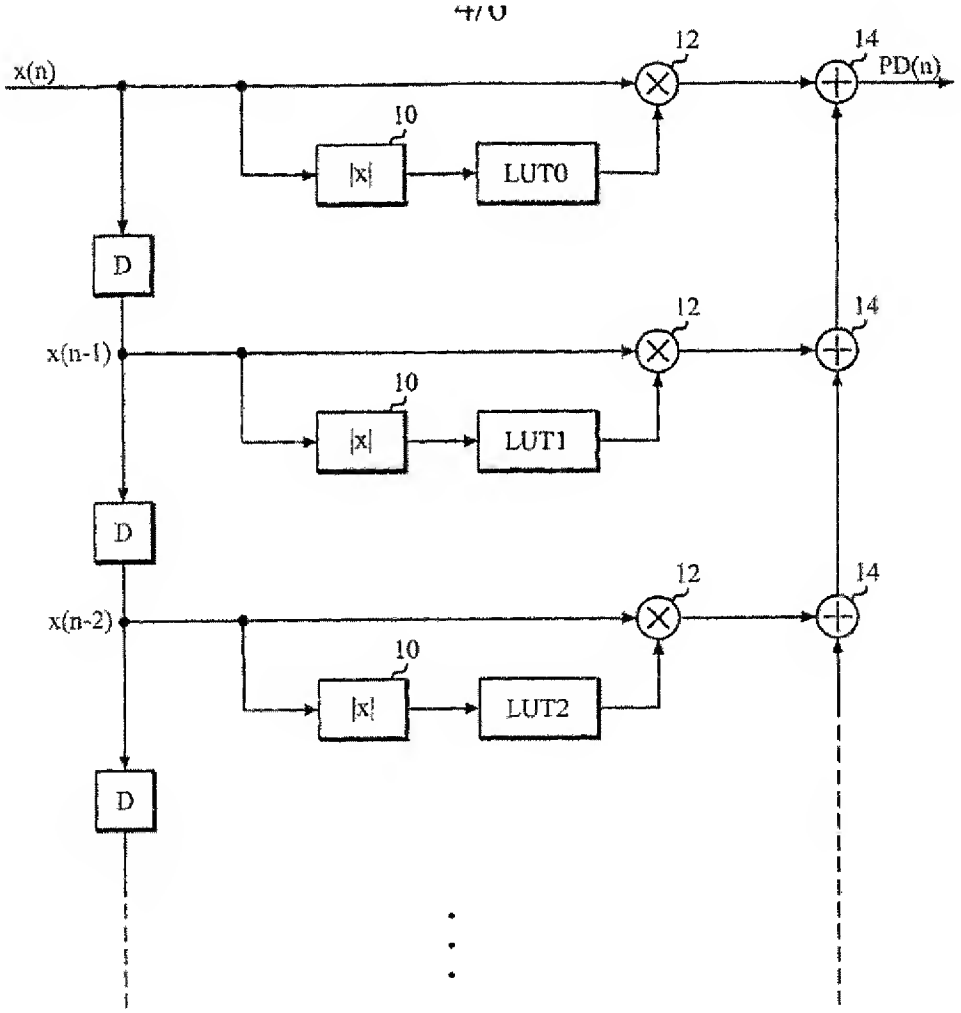
B. PATENTABILITY OF THE CLAIMS

Claims 1-14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wright et al. (U.S. Publication No. 2002/0008578, hereinafter "Wright") in view of Ding et al. (U.S. Patent No. 7,269,231, hereinafter "Ding"). Wright is primarily relied upon to teach or suggest majority of the claimed features.

In this Amendment, independent claims 1 and 6 are amended to recite, in part "wherein the filter coefficient selected from the look-up table corresponding to each filter tap is independent of complex signal values to be

multiplied by other filter taps." Wright and Ding do not teach or suggest this feature.

Applicant thanks the Examiner for conducting informal discussions with Applicant's representative on July 13 and 15, 2010. As alluded to in the informal discussions, an explanation is provided as follows. A non-limiting exemplary pre-distorter including exemplary FIR filter structure of the invention is illustrated in Fig. 7 of the disclosure and reproduced below.



As seen, complex signal value *x(n)* is provided to a first absolute value block 10 which outputs an absolute signal value $|x(n)|$, which is then provided to a look-up table LUT0 to select a filter coefficient for a filter tap corresponding to LUT0. The complex input signal *x(n)* is then multiplied by the filter coefficient selected from LUT0 by the corresponding filter tap, e.g., the top multiplier 12. Similarly, complex signal value *x(n-1)* is used to select a filter coefficient from LUT1 for a filter tap corresponding to LUT1, e.g. the multipler 12 connected to the output of LUT1. This multiplier 12 multiplies the complex signal value *x(n-1)* by the filter tap coefficient selected from LUT1.

Note that filter coefficient selected from LUT0 is selected based on the complex signal value *x(n)* to be multiplied by selected filter coefficient from LUT0. The filter coefficient selected from LUT0 is in no way influenced by other complex signal values *x(n-1), x(n-2),* etc. In other words, the filter coefficient selected from the look-up table (e.g. LUT0) corresponding to each filter tap (e.g. top multiplier 12) is independent of complex signal values (e.g. *x(n-1), x(n-2)*) to be multiplied by other filter taps.

Applicant realizes that *x(n-1)* is a delayed version of a previous *x(n)* previously used to select the filter coefficient from LUT0. But this does not change the fact that when selecting filter coefficients for individual filter taps, *x(n)* has no influence on selecting from LUT1 and *x(n-1)* has no influence on selecting from LUT0.

Indeed, it is this independence that allows efficient training to take place. For example, assuming two look up tables LUT0 and LUT1, a first approximation of LUT0 can be made by neglecting the LUT1, e.g. by setting the elements of LUT1 to zero. Then using the first approximation of LUT0, a first approximation of LUT1 can be made. This process can be iterated back and forth to refine the elements of the LUT0 and LUT1.

Wright in contrast discloses a multi-dimensional lookup table. For example, Fig. 3 (reproduced for ease of comparison) illustrates a two-dimensional table. It is significant that in Wright, the particular element of the multi-dimensional table selected is dependent on both the instantaneous magnitude of the input signal Vm(t) (for row selection) and the integrated or averaged magnitude of the same Vm(t) signal (for column selection). *See also [0096].* Thus, the selection of the filter coefficients from multidimensional table in Wright does not show independence as recited.

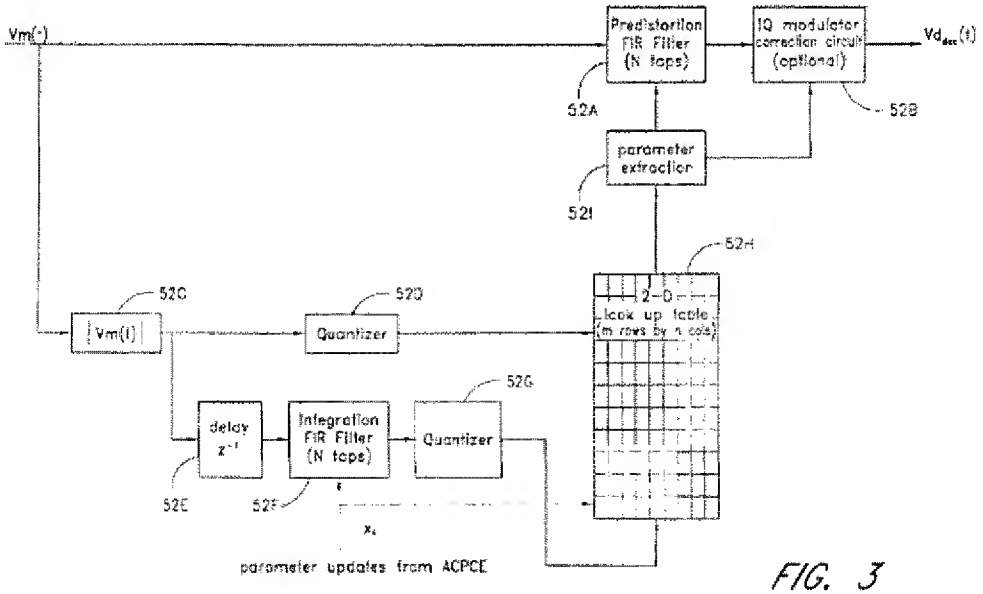


FIG. 3

In other figures, Wright discloses multi-dimensional tables of higher order with similar dependencies on multiple inputs to select an element from the table. *See e.g., Fig. 17.* Wright does not disclose "wherein the filter coefficient selected from the look-up table corresponding to each filter tap is independent of complex signal values to be multiplied by other filter taps." Ding does not cure this deficiency.

For at least this reasons, independent claims 1 and 6 are distinguishable over Wright and Ding. Claims 2-5 and 7-14 are distinguishable over Wright and Ding by virtue of their dependencies from claims 1 and 6 as well as on their own merits.

Applicant respectfully requests that the rejection of claims 1-14 be withdrawn.

C. CONCLUSION

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Hyung Sohn (Reg. No. 44,346), to conduct an interview in an effort to expedite prosecution in connection with the present application.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant respectfully petitions for a three (3) month extension of time for filing a reply in connection with the present application, and the required fee is attached hereto.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Respectfully submitted,

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